

Mobile Applications For Retail Operations

A Celerant Technology Corp. White Paper
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Executive Overview:

Industry research all points in the same direction: while retailers begin to dabble with the right formula for customer-facing mobile applications, they've largely *accepted* the value of mobile technology for operational improvements.

With acceptance of the value brought about by mobile technology in the hands of associates, the question becomes not *when will we adopt mobile technology to support operations*, but *with which applications and platforms should we start?*

Top Mobile Apps For Retail Operations

On the application front, soon-to-be released research from *Integrated Solutions For Retailers* magazine reveals that 29.9% of retailers have plans to deploy mobile POS in 2012, adding to the 25% of retailers that indicated they've already deployed mobile POS in the November 2010 *Going Mobile: Retailers and Consumers Embrace Mobility to Increase Customer Experience* report from IHL Group. The three-year prediction for mobile POS in retail is 80% penetration.

Mobile inventory and price lookup are already in use by 16% of retailers, and the 12-month forecast for growth on these two fronts outpaces mobile POS at 30% and 35%, respectively. Business intelligence and decision support round out the top, current, mobile deployments at 12% penetration; but here again, the growth forecast for the next 12 months is 30%.

Findings from Retail Systems Research underscore the challenges that are leading retailers to leverage

mobility as an operations enabler and competitive differentiator. In its report *The Twenty-First Century Store: The Search For Relevance*, RSR found that the top two challenges stores face are "the need to improve customer service while holding the line on payroll costs" and "the need for more consistent store execution," both challenges that the aforementioned "killer apps" for retail mobility can address. It's no wonder that the same study identifies "focusing on a more convenient customer experience," "finding ways to make employees more productive," and "more personalized attention from our employees" as the "Top Opportunities with 'A lot of Value' in Improving the In-store Experience." The study concludes that in 2011, 57% of retailers say delivering information to store-owned mobile devices is a "potentially very valuable technology to support opportunities," up from 21% in 2010.

The Platforms That Enable Mobile Retail Operations Apps

With the value of mobile delivery of key operations applications well-defined, retailers are actively in the market for mobile devices. IHL Group's research has led to the well-respected consultancy's bullish forecast for shipments of tablets for retail operations improvement in the near term. But according to IHL, the platforms retailers are choosing represent a mixed bag, those decisions being largely dependent on device cost and functionality as they relate to specific retail segments and sizes (see figures 1 and 2 on this and the following page). While Apple leads the charge on all fronts, Android, Windows, and Blackberry platforms will continue to account for significant market share. Concerns about integration with existing store

Figure 1: Tablet Shipment Forecast

Source: IHL Group

Segment	2010 (000's)	Growth (%)	2011 (000's)	Growth (%)	2012 (000's)	Growth (%)	2013 (000's)	Growth (%)	2014 (000's)	Growth (%)	2015 (000's)
Food	20.0	150%	50.1	60%	80.1	30%	104.1	15%	119.7	12%	134.1
Drug	9.7	200%	29.1	70%	49.4	35%	66.7	18%	78.7	14%	89.7
Superstore/WH Clubs	9.8	200%	29.3	125%	66.0	100%	132.0	15%	151.8	12%	170.0
Mass Merchandisers	13.8	150%	34.4	60%	55.0	30%	71.6	15%	82.3	12%	92.2
Department Stores	18.7	150%	46.7	80%	84.1	30%	109.3	15%	125.7	12%	140.8

systems and platform stability and sustainability – which are only fueled by volatility in the device market – leaves some retailers on the fence regarding the platform decision.

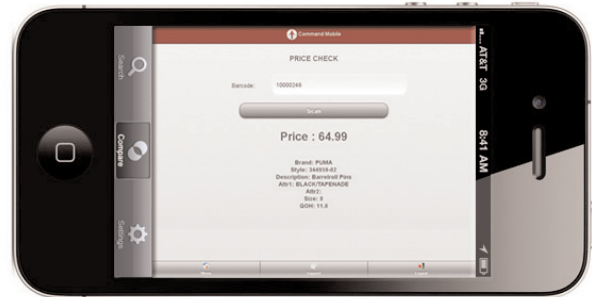
All that said, what if the applications retailers sought to deploy on tablets and smart phones were device-agnostic?

Browser-Based Mobile Apps Via jQuery

Recognizing the scalability risk associated with going “all in” on application development for a single device platform, Celerant Technology sought to meet the demand for mobile retail operations applications by developing a device-agnostic delivery vehicle. To that end, it has developed its first round of mobile retail operations applications in jQuery, a cross-browser java script that lends itself to the mobile device interface. The approach enables seamless integration with Celerant’s traditional systems, preserving the “single version of the truth,” real-time characteristics of Celerant Command, the company’s suite of retail software systems.

Command Mobile applications will function on iOS, Android, BlackBerry, and virtually every other mobile device platform. Beyond the expected application functionality, the jQuery front-end approach to application development ensures that the interface will perform as expected on the device – in horizontal or vertical orientation and with a full extension of touch-screen functionality.

Device-agnostic mobile applications are a critical consideration for growing retailers concerned with scalability. The cost of proprietary hardware for specific warehousing and inventory applications, for instance, can run well into the thousands of dollars. This



Mobile devices enable associates with in-aisle customer service functions such as price checks, which they can perform without leaving the customer’s side.

becomes prohibitive for retailers wishing to extend their mobile application functionality and deploy additional devices at additional sites. With new, multi-purpose tablet devices hitting the market for a tenth the cost of traditional hardware, the deployment of mobile devices that enable multiple applications – from inventory to customer service to mobile POS – is well within the reach of any retailer. Devices that feature the flexibility afforded by USB connectivity have proliferated the market, making the addition of scanners, printers, and other mobile peripherals a low-cost proposition.

With a consistent platform for mobile application development and deployment, regardless of device, the functionality retailers can deploy in mobile fashion is limited only by the imagination. At Celerant, our dedicated team of Web developers is working seamlessly with the company’s Java programmers to quickly develop applications that tie its growing portfolio of Java-based back-end systems to the jQuery mobile interface.

As mobile devices make their way into retail operations as predicted by IHL Group’s shipment forecast,

Figure 2: Mobile Platforms Retailers Are Considering For The Future

Source: IHL Group

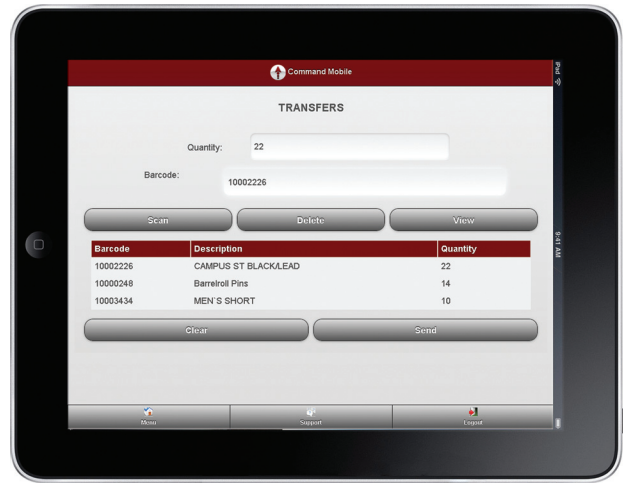
Platforms Being Considered, Next 12 Months	iPad	iPod Touch	BlackBerry	QNX	Android	Windows CE/7	Windows Mobile	Symbian	WebOS
Overall	72%	30%	20%	0%	38%	12%	26%	2%	6%

they will play an increasingly important role in discreet business processes. Mobile devices are a natural extension for receiving tasks, warehouse management, cross-channel merchandising functions such as the upload of product images and attributes to e-commerce sites, and customer service-oriented applications such as price lookup and inventory visibility.

Mobile Apps: Lower Risk, TCO

The mobile device market today is quickly taking a shape that resembles the traditional POS market at the turn of the century. Some fifteen years ago, HP, Fujitsu, and IBM dominated the retail hardware marketplace. Then, PC-based POS blew that market wide open, introducing a host of hardware players to the check out lane. Similarly, the mobile device market today is marked by an influx of devices that are encroaching on the PC platform market. The future of traditional desktop usage is bleak, but the tablet and smart phone landscape is vibrant and diverse. Retailers are wise to develop as many of their traditional retail systems applications as possible for mobile devices, and to do so in a way that allows them the advantages of lower cost and device and application flexibility.

With jQuery mobile applications running on commodity devices, retailers enter a new realm of ease of use and flexibility. The costs associated with the hardware break/fix proposition become nearly negligible. Web-based code can be customized and modified with lit-



Device-agnostic design means Command Mobile applications will work on virtually any form factor, including iOS devices like this iPad.

tle-to-no expensive third party support. Because their development is standardized, the cost of new application development is finite. There is no cost associated with upgrades and software updates. And with device-agnostic mobile applications, the expense associated with migration to new devices, as the flavor of the day changes, is limited to the cost of commodity hardware.

About Celerant Command Mobile:

Celerant offers several wireless applications that run in a web browser and are compatible with most mobile devices. These applications can be utilized for

A Note On Wireless Availability

While the retail market appears primed for a wireless explosion, there's a key infrastructure element that remains missing from much of the landscape: wireless access. In RSR's research, only 27% of retailers have made wireless access available throughout the store for performance management, POS, and product related tasks.

Report authors Paula Rosenblum and Steve Rowen write, "It's becoming an RSR tradition to beseech retailers to get their stores Wi-Fi enabled. We continue to make that plea. We have seen far too many real-life

instances of the Store Manager being the least technology empowered person in the store. That must change." Historically, wireless deployments in retail have been limited by security concerns, deployment costs, ineffective management solutions, and a lack of standards. However, recent advances in wireless local area network (WLAN) technology such as the 802.11n standard and new, achievable wireless data security standards have begun to chip away at these barriers. As adoption of the technology continues to proliferate in the consumer and enterprise business spaces, the barriers to wireless network adoption will continue to fall.

placing and receiving purchase orders, producing quotes, creating gift registries, transferring orders, performing inventory functions, physical inventory, warehouse functions and more. These applications simplify your retail operation, allowing daily procedures that would have been time consuming in the past, to be completed in a fraction of the time. Expedite the sales process, improve your inventory and transfer accuracy, and automate numerous operational processes with these Command Mobile solutions:

Inventory

- Price Check Items
- Perform Transfers
- Track Physical Inventory
- Create Markdowns/Re-ticket items

Client Profiling

- Lookup Customer Information
- Review Customer Purchase History
- Review Customer Preferences and Purchase Statistics
- Optimize Sales to Customers

Warehouse

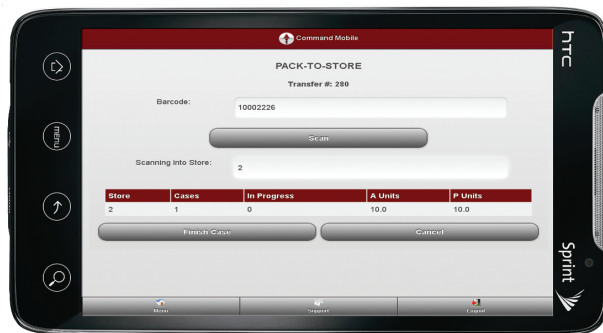
- Pack to Store
- Perform Warehouse Location Transfers
- Track Physical Inventory in Warehouse
- Create Transfer Picks

Purchase Orders

- Make Purchase Orders
- Create a Purchase Order Entry
- Perform Purchase Order Receiving
- Handle Case Receiving

POS

- Display all Product Details
- Calculate Tax and Provide Totals
- Swipe Credit Cards



Extending warehouse and inventory management software to mobile devices creates incredible efficiencies in DCs, warehouses, and stores.

Quotes

- Scan or Enter Barcodes
- View the Barcode for an Item
- Save the Quote
- Print a Copy of the Quote for the Customer

Registry

- Create, Edit and Access Gift Registries
- Scan Barcodes and Add Items

Celerant hasn't hedged its bets on the explosive growth of any one mobile application; instead we've subscribed to the notion that while no single mobile application will resonate with everyone, the benefits of moving strategic applications to mobile devices will appeal to everyone. With Celerant Command Mobile, the mobile application strategy that improves your operational efficiency and differentiates you from your competition is within your grasp, regardless of the hardware devices you deploy.

Visit www.celerant.com or contact your Celerant representative today to see how simple and inexpensive it is to bring the power of mobility to your business.

About Celerant

Celerant Technology is a privately held Corporation, providing high quality, advanced retail management software systems to retail organizations. Celerant CEO, Ian Goldman, comes from a retail management software background and founded Celerant Technology to build an entirely new type of retail system from the ground-up. The software that resulted uses Java technology to solve data integration issues with an all-in-one system, seamlessly integrating all areas of retail, in real-time.

Celerant Technology is atypical when it comes to comparing it to other enterprise-solution companies. Our approach is more individually focused rather than mass-produced. In addition to traditional planning, implementation, training and support services, Celerant provides a range of customized services designed to serve the more complex retail enterprises. These services include custom development, integration with ERP and legacy systems, and integration with alternative points of presence. Celerant Technology's headquarters are located in Staten Island, New York with satellite offices in Georgia, Oklahoma, Florida, and Washington State.

Our real-time management system, Celerant Command Retail, integrates all channels of a multichannel retail enterprise, including POS, warehouse, inventory management, sales back office, datamining, open-to-buy, mail order/catalog and e-commerce. Celerant's custom, sophisticated websites expertly manage and market inventory, directly from your Command Retail system, eliminating the need to re-enter data, including product descriptions, customer information and online orders. Celerant's flexible catalog/mail order module, also built within the system, allows you offer multiple catalogs simultaneously and track the different codes, along with varying price levels. Our advantage is the flexibility of our Java platform and the tight integration, allowing retailers to manage all channels of their business with one, scalable, real-time system.

Our Mission

Celerant Technology promotes business growth and efficiency through innovation and technology.

We understand the unique challenges and demands retailers face each day. As a result, our in-house programming team has created an advanced retail management system which exceeds these needs. The fact that our software is developed in-house, allows us to specifically focus on each individual retail business. Our extensive, customizable software provides retailers with sophisticated tools to manage every area of their business operation as efficiently as possible.

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